

[illegible]

Novel mutated mammalian cells are provided that have been
5 characterized by identifying the sequence of the genes that have
been mutated. Preferably, novel mutated cells are murine ES
cells that stably incorporate retroviral gene trap constructs in
the specifically identified genes. The novel mutated cells and
animals are useful in functional genomic analysis, and in the
10 discovery and development of new therapeutic and diagnostics
agents and methods.